National Institute of Environmental Health Sciences

The influence of Chinook winds and other weather patterns upon neuropathic pain

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Year: 2011
Journal: Pain Medicine (Malden, Mass.). 12 (10): 1523-1531

Abstract:

OBJECTIVE: Although Chinook winds are often viewed positively during a cold prairie winter, patients suffering with neuropathic pain (NeP) anecdotally report exacerbations of NeP during Chinooks and during other weather changes. Our objective was to identify if Chinook winds lead to acute exacerbations in pain severity in a NeP patient population. DESIGN: Prospective diary-based assessments of patients with at least moderate NeP over 6-month periods during different seasons of the year were performed. Concurrent weather conditions were tracked hourly, with Chinook winds defined using accepted meteorological definition. We also examined other aspects of weather including precipitation, temperature, and humidity. Days with acute exacerbations were defined when a daily visual analog score pain score was >/Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)2 points above their average NeP score over the entire 6-month period. RESULTS: Chinooks were not associated with individual acute exacerbations in NeP. Instead, Chinook days were found to be protective against acute exacerbations in NeP (odds ratio 0.52 [0.33-0.71]). Post hoc study associated Chinooks with NeP relief (odds ratio 1.83 [1.17-2.49]). We could not identify relationship between precipitation or humidity with acute NeP exacerbation. However, days with cold temperature

Source: http://dx.doi.org/10.1111/j.1526-4637.2011.01227.x

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Meteorological Factors, Precipitation, Temperature

Temperature: Extreme Cold, Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Non-U.S. North America

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Other Health Impact

Other Health Impact: neuropathic pain

Population of Concern: A focus of content

Other Vulnerable Population: People with neuropathic pain

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified